Policy on the Control of Hand Arm Vibration at Work

1. Policy

Loughborough University will put in place measures to protect employees from the risks of Hand Arm Vibration Syndrome (HAVS), which can be caused by exposure to vibration. These measures will include:-

a) Assessing the risks from vibration exposure
b) Taking steps to reduce vibration exposure
c) Taking into account vibration risks when purchasing or hiring equipment
d) Providing training and information for employees on the risks from vibration and the measures in place to reduce these
e) Providing health surveillance where the risk assessment shows that this is appropriate.

This will enable the University to satisfy its obligations under the Control of Vibration at Work Regulations (2005) and the Management of Health and Safety at Work regulations (1999).

This policy does not cover the risks arising from Whole Body Vibration, which also arise from the above regulations; these are covered separately.

2. Procedures and Guidance

a) Exposure Limit Value and Exposure Action Value

**Exposure Action Value – 2.5 m/s² A(8)** (exposure averaged over a day) *(EAV)*

Wherever exposure at or above this level occurs, actions (including health surveillance) are required to control the risk.

**Exposure Limit Value – 5 m/s² A(8)** (exposure averaged over a day) *(ELV)*

This is the maximum vibration exposure permitted for any individual on a single day.

b) Risk Assessment

Vibration risk assessment is required if employees work with, for example, hand held tools (e.g. drills, breakers, sanders, chain saws, hedge trimmers); hand guided tools (such as...
pedestrian lawn mowers, buffers) or materials held against a vibrating object (e.g. use of a grinder, timber being guided through a band saw).

Risk Assessment requires :-

- assessment of the vibration magnitude from each piece of equipment used. This may be provided by the manufacturer: however, manufacturers’ data will often come from testing under specific controlled conditions which are very different from normal working practices and therefore may significantly underestimate exposures in practice. Alternate sources of data include websites which have measured vibration levels of equipment in real use, these include:-
  http://www.las-bb.de/karla/index_.htm
  http://www.operc.com/pages/havteclgoin.asp
- measurement of vibration levels where published data is not available, and there is reason to believe that individual exposure is potentially close to the ELV. This must be carried out in discussion with the Health, Safety and Environment office.
- identification of who might be affected;
- calculation of vibration exposure for individuals, taking into account equipment used and length of time in use (‘trigger time’) The Health and Safety Executive have produced a ‘calculator’ which will enable conversion of working times and vibration magnitudes into an overall exposure factor. It will also enable the summation of exposures if more than one piece of equipment is used.
  http://www.hse.gov.uk/vibration/hav/vibrationcalc.htm
- identification of other risk factors, for example work in cold or wet environments increases the health risks from vibration exposure
- consideration of individual factors. For example, the presence of some health conditions may increase risk from vibration exposure; the way some employees use equipment (posture, technique) may increase their vibration exposure from a particular activity by up to 50% compared to colleagues.

The risk assessment should include an action plan which documents the measures already in place to reduce the risk from vibration exposure and any further measures planned.

The vibration risk assessment can be a stand alone document, or can be incorporated into the overall risk assessment document for a department or process where this is more appropriate

The risk assessment should be reviewed if there is any change in vibration exposure; and at least every 2 years otherwise.

The risk assessment for vibration, and any associated measurement should be carried out in conjunction with the Health, Safety and Environment Office to ensure that the assessor has the necessary skills and experience.

c) Reducing Risk from Vibration Exposure

Measures should be put in place to reduce vibration exposure to as low a level as is reasonably practicable – even if vibration levels are below the Exposure Action Value (EAV), consideration should be given as to whether further reduction is practical.
Wherever vibration levels may exceed the EAV, assistance should be sought from the Health, Safety and Environment Office to assist with risk assessment and reduction of vibration exposure.

Personal vibration exposure MUST NOT exceed the Exposure Limit Value (ELV) of 5m/s$^2$). The only exception to this is for occasional (e.g. emergency work) where the ELV is exceeded on one day, but is at or close to zero for the rest of the week; or where equipment is purchased prior to July 2007, and exposure can not possibly be reduced below that level in which case there is a transitional arrangement in place until July 2010. In this scenario, there is still an obligation to reduce exposure so far as is reasonably practicable, and to keep under regular review.

Measures to reduce risks from vibration exposure may include:-

- replacing tools and equipment with alternatives which produce lower magnitudes of vibration
- Ensuring work activities are designed to take into account ergonomic principles, and to encourage good posture
- ensuring all equipment is properly maintained
- reducing time exposed to vibration e.g. regular breaks, job rotation etc
- providing suitable clothing to protect employees from cold and damp
- Providing suitable training and information for all those exposed to vibration

d)

Health Surveillance

Exposure to vibration carries a risk of health effects, this is most likely with exposure above the EAV of 2.5 m/s$^2$, but may occur at lower exposures.

Hand Arm Vibration Syndrome (HAVS) covers a number of different conditions, one or more may be present in an affected individual.

a) Vascular disorders (affecting circulation)– commonly ‘blanching’ of the fingers (especially on exposure to cold or to vibration), often followed by blueness/redness as rewarming occurs

b) Neurological disorders – including numbness, tingling of the fingers, reduced strength, reduced sensitivity and loss of dexterity

c) Musculo-skeletal symptoms such as joint pain and stiffness, reduced strength and dexterity and carpal tunnel syndrome

Symptom severity worsens with continued exposure and may be disabling and irreversible.

In certain circumstances, HAVS is reportable under RIDDOR.

Health surveillance must be carried out for employees who are regularly exposed to vibration above the exposure action value (2.5. m/s$^2$)

Health surveillance will also be offered to those exposed below the EAV if they are at increased risk e.g. if they report a pre-existing diagnosis of HAVS or any other condition of
the hands, arms, wrists or shoulders, or any condition which affects circulation or nerve conduction such as diabetes, carpal tunnel syndrome etc.

Health surveillance will involve:-

a) initial assessment prior to or very soon after first exposure. This will usually be by questionnaire, with face to face follow-up where required. (see appendix 1 for questionnaire)

b) Annual assessment. This will usually be by questionnaire

c) Face to face review. This will be arranged if a questionnaire reveals symptoms; if an individual reports symptoms between health surveillance questionnaires; or every 3 years otherwise.

Health surveillance will be carried out by Occupational Health. All individual records will be held in confidence. Where appropriate, summary results for groups of employees will be reported back to a manager to indicate the effectiveness of vibration control.

e) Training and information

All employees who are exposed to vibration should be given training to include:-

- The health effects of hand-arm vibration;
- Sources of hand-arm vibration;
- Whether they are at risk, and if so whether the risk is high (above the ELV), medium (above the EAV) or low;
- The risk factors (eg the levels of vibration, daily exposure duration, regularity of exposure over weeks, months and years);
- How to recognise and report symptoms;
- The need for health surveillance, how it can help them remain fit for work, how you plan to provide it, how you plan to use the results and the confidentiality of the results;
- Ways to minimise risk including:
  o Changes to working practices to reduce vibration exposure;
  o Correct selection, use and maintenance of equipment;
  o Correct techniques for equipment use, how to reduce grip force etc;
  o Maintenance of good blood circulation at work by keeping warm and massaging fingers and, if possible, cutting down on smoking.

Face to face training may be provided by the Departmental Safety Officer if he/she is competent or can be arranged through the Health Safety and Environment office. Alternatively training may be computer based or through use of leaflets.

Where new staff are employed, they should be made aware of the risks of vibration prior to first exposure, or at least within the first week of employment. This can be done at the same time as asking them to complete the initial health assessment form for return to Occupational Health.

In addition, all employees should be given appropriate training in the use of equipment. This should include periodic supervised practice to identify work practices which may increase risk such as poor postures, gripping equipment too tightly etc.
3. **Responsibilities**

a) **Head of Department**

- Nominate a person(s) (usually the Departmental Safety Officer) to implement the vibration regulations within the department or section, and ensure they have the necessary skills and competence
- Support the nominated person(s) in implementing measures to comply with the vibration regulations
- Ensure all managers and employees within the department discharge their responsibilities in accordance with this policy

b) **Managers and Supervisors**

- Understand the scope and content of the Vibration regulations where this is relevant to work in their area
- Ensure vibration factors are taken into account when hiring or purchasing new equipment
- Ensure that necessary vibration risk assessments have been undertaken for any equipment used by those in their charge
- Implement and enforce vibration control measures, in conjunction with the Departmental safety officer
- Ensure employees are suitably trained in all aspects of operating equipment, including vibration control

c) **Departmental Safety Officer (or other nominated person)**

- Understand the scope and content of the vibration regulations
- Identify whether risk assessment is required within the department
- Ensure vibration factors are taken into consideration when purchasing new equipment
- **Work with the Health, Safety and Environment Office to**
  - Carry out vibration risk assessment if required
  - Implement vibration control measures where appropriate
  - Identify where health surveillance is required, and inform Occupational Health.
  - Ensure new employees submit an initial questionnaire to Occupational Health within the first week of employment (or the first week of exposure)
- Provide training and information for those who may be exposed to vibration

d) **Employee**

- Use all equipment in accordance with instruction
- Ensure all equipment is well maintained
- Report any defects or difficulties with vibrating equipment
- Co-operate with any programme of health surveillance which is identified as necessary following risk assessment
e) Health Safety and Environment Office

When requested by the Departmental Safety Officer or equivalent:

- Assist with vibration risk assessment
- carry out/arrange vibration measurement where appropriate
- advise on vibration control measures
- advise whether health surveillance is appropriate
- provide/arrange training for nominated persons (DSOs or equivalent) to ensure they are competent to carry out the activities outlined in 3b above
- Audit compliance with this policy and the underpinning regulations

f) Occupational Health

- Provide health surveillance on request
- Give feedback and guidance on risk to individuals following health surveillance
- Feedback group results from health surveillance to the appropriate manager
- Advise the appropriate manager if there are restrictions on an individual’s ability to work due to health risks

4. References and further reading

_Hand-Arm Vibration The Control of Vibration at Work Regulations, 2005_. L140 HSE Books

Hand-arm vibration - Advice for employees (indg296 - rev1)
_http://www.hse.gov.uk/vibration/hav/indg296.htm_

Hand Arm vibration at work – HSE pages
_http://www.hse.gov.uk/vibration/hav/index.htm_

Management of Health and Safety at Work Regulations